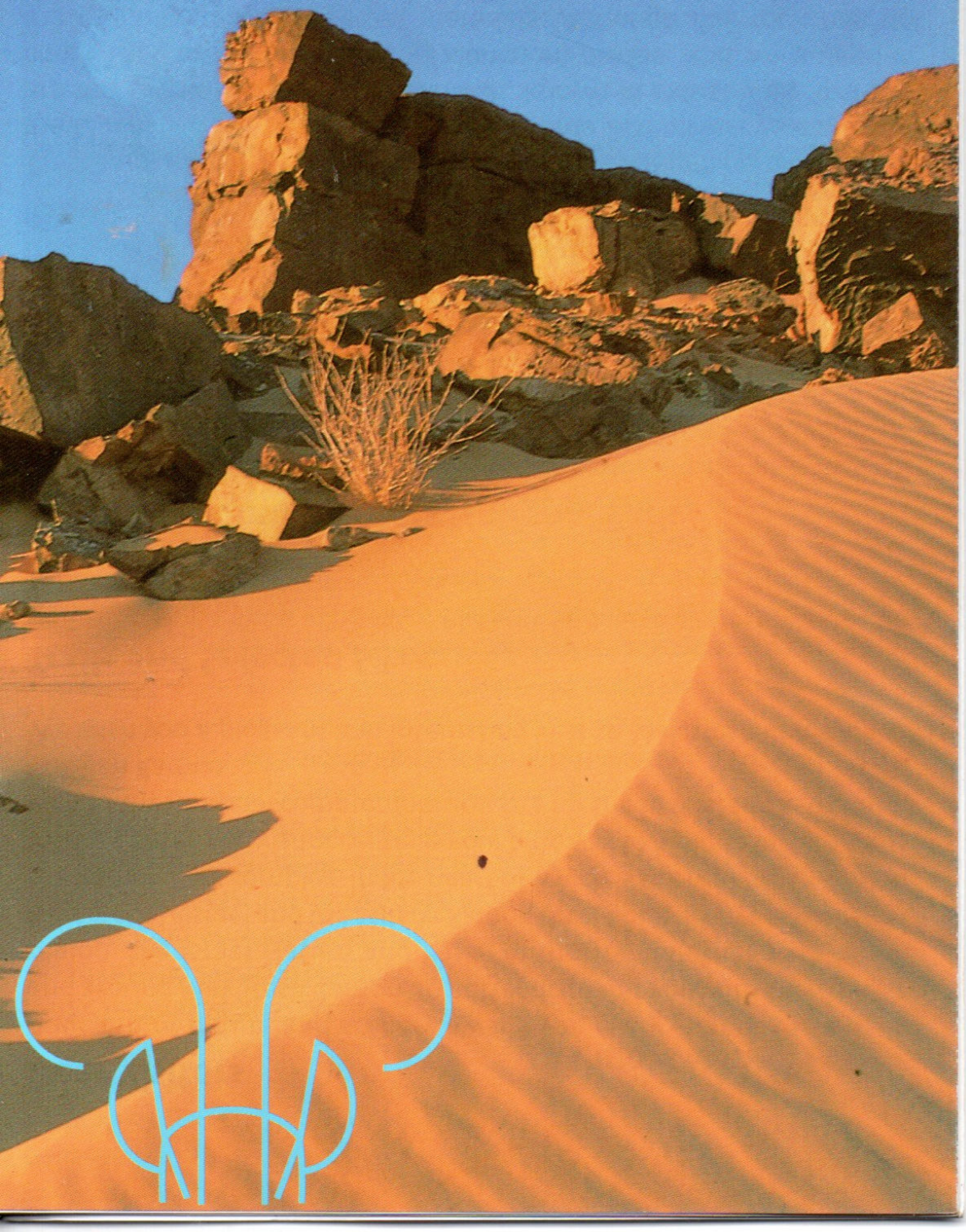
ISRAEL NATURE
AND PARKS
AUTHORITY

Makhtesh Ramon

Nature Reserve

www.parks.org.il | *3639 |



Information for visitors to Makhtesh Ramon Park

Please observe these rules during your visit, for your safety and to protect nature.

- Hikers must have a hiking map with trail markings. Do not go hiking without a map.
- Wear walking shoes and a hat.
- The Negev is a hot, dry desert and water sources are rare. Carry 5 liters of water per day per person. Do not rely on natural water sources.
- In summer, avoid long hikes in the noon hours. There are many options for brief, enjoyable trips.
- In winter it is very cold in Mitspe Ramon. Wear warm clothing.
- Do not hike in flood-prone areas. When in doubt, please inquire at the Makhtesh Ramon Visitor Center.
- Makhtesh Ramon has remained almost unspoiled. Please protect the landscape. Do not harm flora, fauna or inanimate objects and do not collect fossils.
- Vehicles and bicycles are allowed only on roads so marked. Do not go off these roads. Park only in designated parking areas. Tracks from vehicles cause damage to the desert landscape, plants and animals, and change the flow patterns of water, remaining for years to come.
- Use only on marked trails.
- Rappelling is allowed only at the authorized rappelling site near the visitor center.
- Campfires and camping are permitted only at authorized sites. Camping outside of campgrounds is prohibited in order to avoid disturbing animals that are active at night.
- Do not collect campfire wood from dry vegetation, trees or shrubs. Plants reduce their activities in the summer and appear to be dry and dead. If you don't damage them, they will turn green again in the winter! Even dry branches have a role in the desert – as food for animals and hiding places for small creatures. Bring your campfire wood from home!
- Please keep the area clean. Wild animals are injured by garbage, and they can die from ingesting human food remnants. Take your refuse with you. Do not bury or burn it in the reserve.
- When planning your trip in the makhtesh, make sure the area is open to visitors on the dates you want to visit.
- Do not touch suspicious objects.
- We strongly recommend you do not leave valuables in your vehicle when you set out on a trail. Lock everything you leave behind in the trunk.
- Before entering an unfamiliar place, make sure to obtain updates on road and trail conditions at the information station in the visitor center. Before taking a long hike, we recommend you leave detailed information about your precise itinerary with a reliable person at home.

Makhtesh Ramon

Makhtesh Ramon, the largest makhtesh in the Negev, is the center of two large nature reserves: Negev Highlands and Matsuk Hatsinim reserves. Makhtesh Ramon is 40 km long and a maximum of 9 km wide. The peak of Mount Ramon, the highest mountain in the Negev (1,037 m above sea level) overlooks the makhtesh from its southwestern corner. The Ramon Ridge is part of the national watershed. Three large wadis, Tsin, Nekarot and Paran (via Wadi Arod) drain more than 90 percent of the ridge toward the Dead Sea and the Arava Valley; the rest of the ridge drains toward the Mediterranean Sea via Wadi Nitsana, whose channel disappears somewhere in the Nitzana and Rafah dunes, and Wadi Lotz, that drains to the Mediterranean Sea via Wadi el-Arish.

Makhtesh Ramon undercuts the Ramon Ridge, which is a large northeast–southwest anticline like the rest of the northern Negev ridges. The ridge, from its southwestern end (the area of Wadi Lotz on the Egyptian border) to its northeastern slopes (the Arava), is as much as 80 km long. The Ramon Anticline is asymmetrical, that is, its layers in the northwest tilt moderately (about 10 degrees), while in the southeast the slope is very steep, a seemingly almost vertical wall. Large table mountains abut the steep slope in a few places (Mount Oded, Mount Marpek, and others)., which moderate the slope and create broad, flat terraces. The boundaries of the southwestern part of the ridge are Wadi Nekarot and the high Negev mountains – the Lotz Cliffs, Mount HaMe'ara and Mount Harif.

Makhtesh Ramon features special natural phenomena and fascinating remains of the past. Especially prominent are rare geological phenomena in Israel: basalt flows, and fossils and bedrock outcrops that are 220 million years old! Some of the soil in the makhtesh is made of spectacularly colorful sandstone.

Because of the height differences in the makhtesh, the climate is completely different at the bottom from that on its slopes. And so the Negev Highlands are a fascinating place where animals and plants from the high Negev mountains (a steppe climate, cold in the winter) meet typical flora and fauna from the desert (a hot, dry climate).

Makhtesh Ramon is a spacious area, almost entirely set aside for conservation of landscape and nature. Quite unusually for the Negev, the army does not conduct training exercises there.

Hiking trails and vehicle roads crisscross the makhtesh and reach every corner. The important sites feature informational and directional signage. Mitspe Ramon, a town that has become a center for desert tourism, is the only town at Makhtesh Ramon. It offers are various levels of overnight accommodations, and a variety of sites and tourism services. The road that descends from Mitspe Ramon to Eilat is the main access road to the sites in the makhtesh.

Griffon vultures

Sun-rose

Plant Life

Of all of the desert areas in Israel, the Ramon area is the richest and most variegated in terms of plant communities due to its variety of habitats and the differing the climate conditions at the top of the Ramon ridge and the bottom of the makhtesh. In the high areas of the Ramon ridge, for example, at Mitspe Ramon and the Lotz Cisterns, a steppe climate prevails, with cold winters that sometimes see snow, and hot, very dry summers. The average annual rainfall is about 100 mm.

Plant life here is very rich in species, the most prominent of which are representatives of the Irano-Turanian region, the heart of which is in Central Asia. The very cold winters "postpone" the main growing season to late winter and spring – when a gorgeous variety of blooming flowers appears. At the bottom of Makhtesh Ramon, in contrast, the climate is arid and very hot, and the dominant species are representatives of the Saharo-Arabian region, centered in the deserts of the Arabian Peninsula.

The major wadi beds of the Negev Highlands and the rocky canyons (Wadi Eilot, Wadi Lotz), are home to many impressive Atlantic pistachio trees (*Pistachia atlantica*), some of which are tall as 10 m! In Wadi Eilot these trees create a kind of steppe "forest," with a density of 30 trees per square kilometer. The Atlantic pistachio loses its leaves in the winter, and it easy to recognize by the galls that develop on its branches, that resemble corals. Wadi beds also feature a rich variety of other vegetation: desert buckthorn (*Rhamnus disperma*), stinking willie (*Jacobaea vulgaris*), Arabian globe-cress (*Globularia arabica*), Egyptian stachys (*Stachys aegyptiaca*) and others. Splendid flowers bloom in the spring, among them desert tulip (*Tulipa systola*), yellow asphodel (*Asphodeline lutea*) and crown anemone (*Anemone coronaria*).

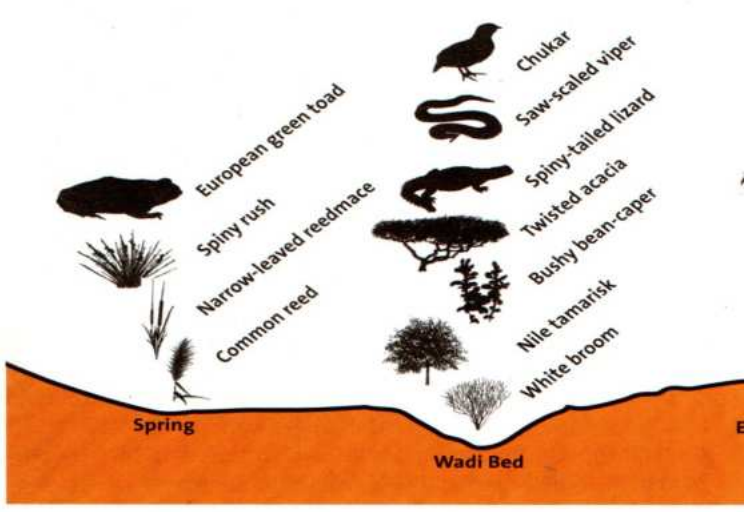
About ten percent of the rocky areas of the Ramon ridge are covered with shrubs and bushes. White wormwood (*Artemisia sieberi*), a very fragrant, grayish-colored bush, is very common here. In Bedouin folk medicine it is used to lessen stomach pain and treat colds. A bush endemic to the Ramon ridge, which even bears its name, is Ramon marjoram (*Origanum ramonense*), a low-growing, fragrant bush that thrives in rocky crevices.

The steep cliff facing the makhtesh is a vertical habitat, and therefore it does not benefit from surface runoff. And so here we find typical desert species like bushy bean-caper (*Zygophyllum dumosum*) and Gymnocarpos decander. Still, Mediterranean species, for example, common caper (*Capparis spinose*), can be found in rocky crevices. Desert shrubs sprout on the basalt as well as on the limestone and sandstone in the makhtesh, like *Gymnocarpos decander* and jointed anabasis (*Anabasis articulata*). To save water in the hot season, *Gymnocarpos decander* loses its leaves while jointed anabasis, like a few of the other plants in the Chenopodiaceae family can dry its green outer skin to help balance its water supply. The wadi beds in the makhtesh, especially the great Wadi Ramon bed, are a very special habitat. They drain fairly large amounts of water and thus they also sprout trees – twisted acacia (*Acacia raddiana*). Together with them we find Arabian boxthorn (*Lycium shawii*), tally weed (Ochradenus baccatus), white broom (*Retama raetem*) and moricandia (*Moricandia nitens*), among others. In places where the soil is gypsum-rich, a special plant community grows, whose hallmark is the Salsola cyclophylla shrub, a modest plant with small, scaly leaves.

The desert springs also create a special habitat. The tall-stemmed, narrow-leaved reedmace (*Typha domingensis*) and common reed (*Phragmites australis*) thrive near fresh water. The sharp rush (*Juncus acutus*) faithfully indicates proximity of the aquifer to the surface, even if no water is visible. Farther from the water, especially in slightly saline soils, the salt tree (*Nitraria retusa*) is found, a bush with meaty, grayish leaves and red fruits. Contrary to its name, it fruit is sweet to the taste. Also growing in this soil are camelthorn shrubs (*Alhagi graecorum*) and tamarix trees, which are coated with tiny salt crystals, revealing how they actively gets rid of excess salt.

Animal Life

The variety of habitats in Makhtesh Ramon has produced a wealth of animal life. Large mammals need spacious areas to live, but small animals are usually limited to certain habitats and cannot survive elsewhere. The geographical location of Makhtesh Ramon has a major effect on the animal species that live there. They came here



from every direction, from climate conditions completely different from each other. In some cases, geographical isolation has led to the creation of new subspecies of the original population.

Thanks to the size of Makhtesh Ramon, its isolation and the strict nature-protection policies of the past several years, the Israel Nature and Parks Authority has chosen to rewild an animal species that had become extinct in our country – the onager. In 1983, the first 14 individuals from the herd living at Hai Bar Yotvata were released here for the first time. The onager, which resembles a donkey, is actually the smallest species of wild horse, and cannot be domesticated. The meat of young onagers was considered a delicacy in antiquity, especially among the Romans, which may be the reason that the subspecies living in Israel became extinct. The population of onagers in Makhtesh Ramon has adapted well, with some 100 individuals now wandering throughout the Negev. The onager is the first large animal that was rewilded in Israel. After the success in Makhtesh Ramon, some 20 white orynx were released in the Arava. Another animal which lives in the cliffs of Makhtesh Ramon is the Nubian ibex. The ibex was on the verge of extinction in Israel, and only thanks to the law passed in 1964 to protect wild animals was the species saved. Thanks to its muscular body and the special structure of its legs, it can navigate the rocks and steep cliffs. Ibex are hard to hunt when they are moving among the cliffs, but it's very easy to do so while they are drinking water..

Animals Originating in the East Africa Savanahs

Hyena (*hyaena hyaena*) – A large mammal of the canine family, which feeds on animal carcasses.

Caracal (*Caracal caracal*) – A large nocturnal wild cat, known for the long tufts of hair at the tips of its ears.

Hyrax (*Procavia capensis*) – A small mammal with brown fur, which lives in large colonies among the rocks.

Lappet-faced vulture (*Torgos tracheliotos*) – A large raptor, a subspecies endemic to this area. The Negev population has been wiped out, but there's a chance the species can be brought back from a few individuals remaining in the Arabian Peninsula.

Israeli mole viper (*Atractaspis engaddensis*) – A fairly slender, venomous snake than can grow as long as 80 cm. Endemic to Israel and Sinai.

Poekilocerus bufonius – a genus of grasshopper, black with yellow spots. Feeds on venomous plants of the milkweed family, from which it produces a powerful toxin.

Arid-land Animals that Originated in the Sahara and the Arabian Deserts:

Dorcas gazelle (*Gazella dorcas*) – The smallest species of gazelle in Israel. Its population in Israel was on the verge of extinction in the 1960s, but survived thanks to wild-animal protection laws.

Ruppell's fox (*Vulpes rueppellii*) – A small, nocturnal fox that feeds on small rodents, insects, fruit and vegetables.

Fat sand rat (*Psammomys obesus*) – A large diurnal rodent that feeds mainly on saltbush shrubs. If it is fed with sugar-rich food, it develops diabetes.

Egyptian spiny-tailed lizard (*Uromastyx aegyptia*) – **A large, diurnal lizard that can grow as long as 75 cm and feeds on plants.**

Golden spiny mouse (*Acomys russatus*) – A diurnal, mouse-sized rodent whose body is covered with spiky fur.

Sand partridge (*Ammoperdix heyi*) – A ground-nesting desert bird. Its heavy body prevents it from flying far, and it avoids danger by flying from one side of a wadi to another.

Houbara bustard (*Chlamydotis undulata*) – A large, ground-dwelling bird, which lives mainly in open landscape. It was once hunted for its delicate meat, and is still on the list of endangered species.

Animals Originating in the Mediterranean Region:

Red fox (*Vulpes vulpes*) – A species of diurnal fox larger than Ruppel's fox and Blanford's fox. Common throughout Israel, and feeds on meat, insects and plants.

Wolf (*Canis lupus*) – A nocturnal predator. The Negev Highlands wolves are smaller than those in northern Israel. Males weigh about 20 kg on average.

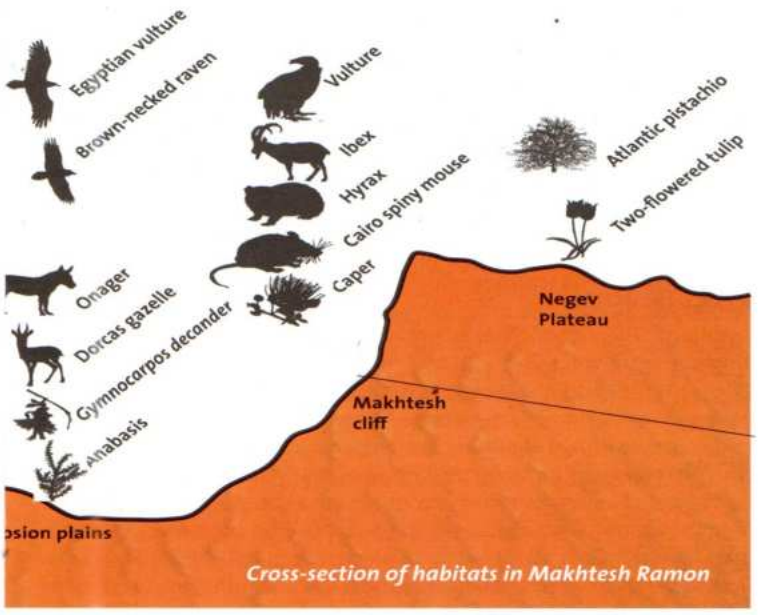
Vulture – Vultures nest in high, isolated cliffs overlooking the makhtesh.

Animals from the Central Asian Plateaus

Blanford's fox (*Vulpus cana*) – A small, nocturnal fox species that inhabits rocky areas and cliffs. Known for its particularly thick tail.

Dormouse – A rodent of the Gliridae family, gray in color and nocturnal, known for its two-thirds black tail. Feeds on invertebrates and small mammals.

Crowned sandgrouse (*Pterocles coronatus*) – Although this diurnal bird has adapted to desert life, it has to drink water. To quench the thirst of its chicks, the males soak their feathers in water and fly to their nests.



Cross-section of habitats in Makhtesh Ramon


Onagers

Remnants of the Past

Humans "discovered" the Negev Highlands beginning at the dawn of history. The finds uncovered at the various sites reveal a great deal of information about how people adapted to their environment. In some of the prehistoric periods, the climate was rainier than it is today, more like the climate along the coastal plain. Large areas were covered with Mediterranean woodlands and all their typical flora and fauna. These conditions attracted groups of hunter-gatherers. Remains of hunters' camps with flint tools, dating back 50,000 years, were found near Sde Boker. At Mount Harif and Mount Horsha near Makhtesh Ramon, remains of human settlement were found going back 10,000 years. The prehistoric culture of Mount Harif was given a special name: the "Harifian cuture." Climate change led to abandonment of the area.

In the Early and Middle Bronze Age (the fourth and third millennia BCE), people resettled in the Negev, as attested by the remains of oval dwellings in clusters resembling villages. These dwellings were discovered in and around Makhtesh Ramon, for example, a structure found near Mount Gamal, very close to Mitspe Ramon. The large stone heaps and open-air shrines that were discovered on Saharonim Plateau, may have belonged to these groups, whose religion and cultic practices may be reflected in them. The tribe of Simeon settled in the Negev during the period of the Israelite settlement (thirteenth–eleventh centuries BCE).

The Israelites established control of the Negev during the reign of King David. At the time of Solomon, a network of fortresses dotted the Negev roads on the southern boundary of his kingdom. The most impressive remains from the Israelite period are associated with water collection, as can be seen at Lotz Cisterns, Hamat Cistern and other sites. The fall of the Kingdom of Judah brought a new period to the Negev – the Nabatean period. Beginning in the fourth century BCE, the Nabateans are described as traders and leaders of caravans from southern Arabia and the Dead Sea to the Mediterranean ports.

Remains of structures left by the Nabateans attest to a well-developed culture and great wealth. The ancient Incense Route, one of whose branches crossed Makhtesh Ramon, fascinates visitors to this day. Because ties between the Nabateans and the Romans grew stronger during the time of Pompey, it is believed that the Nabatean road to Gaza was built in the first century BCE or slightly thereafter, although the Nabateans settled in the Negev and took control of the spice and incense trade as early as the fourth century BCE.

The milestones along the road attest to Roman influence. The Nabateans built many forts around Makhtesh Ramon, which controlled the road and provided inn accommodations for travelers. At Horbat Katsra are remains of a square fort, while Nekarot Fort left behind a large, excellently preserved cistern.

Near Saharonim Spring are remains of a caravansary, or khan, called Khan Sha'ar Ramon. A very well-preserved portion of the road, along which are milestones, is found between Dekalim and Mahmal ascents. From there, the road continued to Avdat, Halutsa and Gaza. After the death of the Nabatean King Areas IV (40 CE), Nabatean rule was weakened in the Negev, except for a brief period of prosperity during the time of Rabbel II (71–106 CE).

Camel caravans eventually dwindled. The annexation of the Nabatean Kingdom to the Roman Empire diverted the Incense Route in new directions. The road from Petra to Makhtesh Ramon and Gaza became desolate. In the fourth century, the Negev became an important Christian center, and its churches and centers of scholarship gained renown.

The population of the Negev Highlands numbered in the tens of thousands. They developed sophisticated desert agriculture, which included the cultivation of grain and fruit trees. Remains of terraces have been found in almost every wadi. At the same time, evidence of nomadic shepherds' encampments has also been found. The Arab conquest (seventh century CE) led to the collapse of settlement in the Negev. The rulers at the time were uninterested in the region, and the inhabitants had to abandon it. The Negev were taken over by nomads, who were its sole rulers until the time of the British Mandate (1917–1948). The British built vehicle roads in the region and established police stations. They build the Beersheba–Mamshit–Scorpions' Ascent–Eilat road, the road from Beersheba to the Great Makhtesh and the "oil road" from Yeruham to Makhtesh Ramon.

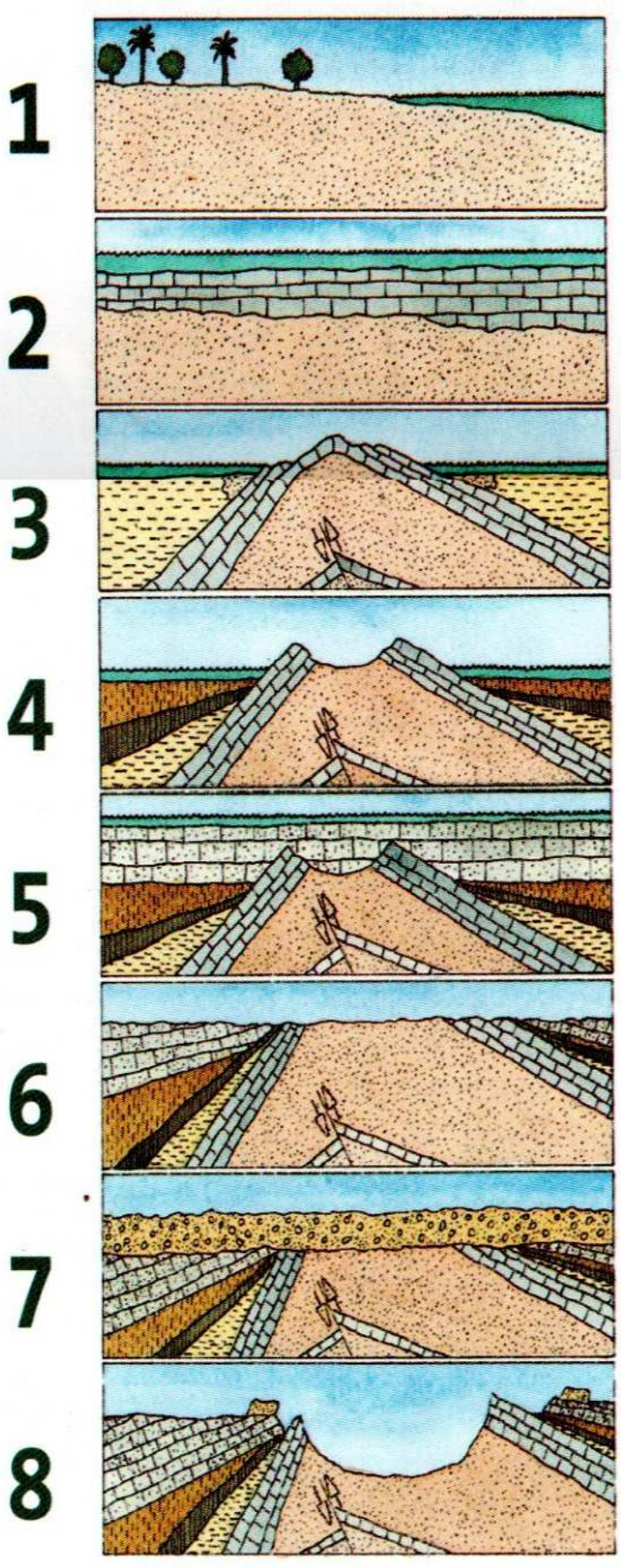
The British also built water systems for the benefit of the Bedouin population and registered land ownership. During the War of Independence (March 1948), as part of Operation Uvda, Israeli army units crossed the Negev Plateau and Makhtesh Ramon and reached Eilat, thus extending Israeli control to the Negev.


Saharonim caravansary

Phases in the Development of Makhtesh Ramon

(geological consultant: Yoav Avni)

1. **Genesis** (110 million years ago)
   The area that is now the Ramon ridge was once a continental environment with rivers and lakes that developed near a shallow sea. Sandstone deposited there became known as the Hatira Formation.
2. **Seawater flooding** (100–90 million years ago)
   At this time, the area was flooded with a shallow sea rich in animal life. Skeletal remains and limey materials from these animals were deposited in the seabed on top of the sandstone resulting in limestone layers 500 m thick. These rocks, which belong to the Yehuda Formation, created a hard rock covering at the top of the Ramon Anticline and other anticlines throughout Israel.
3. **Fold** (80 million years ago)
   Meanwhile, these rocks folded along the Ramon Rift, an ancient underground geological rift that "woke up" due to movements of the earth's crust. After that, the area was covered with a deeper sea, where soft chalk rocks (the Menuha Formation) formed. The layers tilt differently on either side of the rift; this is known as an asymmetrical rift) That is the reason that the later rock lies on tilted rather than horizontal rock layers.
   On the rocky roof of the Menuha Formation on the sides of the anticline stream conglomerates were discovered, which are created under continental conditions. This phenomenon attests that the top of the anticline protruded like a continental island above the rest of the anticline, which was still flooded with seawater. There are no conglomerates at the top of the anticline because they eroded away; that is, the top of the anticline disintegrated over time.
4. **The anticline rises** (60–70 million years ago)
   The Ramon Anticline continued to rise along the Ramon Rift, on top of which rocks of the Mashash and Ghrareb formations were stratified. The Mashash Formation consists of chalk and flint strata, while the Ghrareb Formation features chalk with some clay and phosphates. Remnants of dunes and conglomerates surround the anticline; these were carried by water from the continually eroding top. The western part of the primordial makhtesh structure may have developed at that time.
5. **Late seawater flooding** (40–50 million years ago)
   Seawater flooded the Ramon Anticline, including the primordial makhtesh, as part of extensive seawater flooding in the Eocene Age. Limestone (the Avdat Formation), which was uncovered in the western part of the Ramon Anticline and the Avdat Plateau, was deposited in this sea.
6. **The sea receded and the top of the anticline was sliced off** (30 million years ago)
   The level of the sea declined, while the Ramon Anticline continued to rise. A good deal of the top of the anticline was sliced off due to erosion, exposing a large area of sandstone of the Hatira Formation that had been deposited in the early phases of the creation of the makhtesh. The decline in the level of the sea exposed the area to continental influences.
7. **Development of a river system** (10–20 million years ago)
   Very large, Nile-size rivers develop in the area. Sandstone and pebble conglomerates (the Hatzeva Formation) were carried here by these rivers from the area of today's Saudi Arabia. The area was no more than a few dozen meters above sea level of that time.
8. **Powerful undercutting and the creation of Makhtesh Ramon** (today's makhtesh)
   The current topographical height of the Ramon Ridge, more than 1,000 m above sea level, attest to a major rise of the ridge. This rise was accompanied by a slight tilting to the northeast, toward the Arava. The huge height difference and the tilting of the ridge caused major undercutting of the soft sandstone and its erosion from the Ramon Ridge toward the Arava. The erosion of the ridge created Makhtesh Ramon as we know it today.



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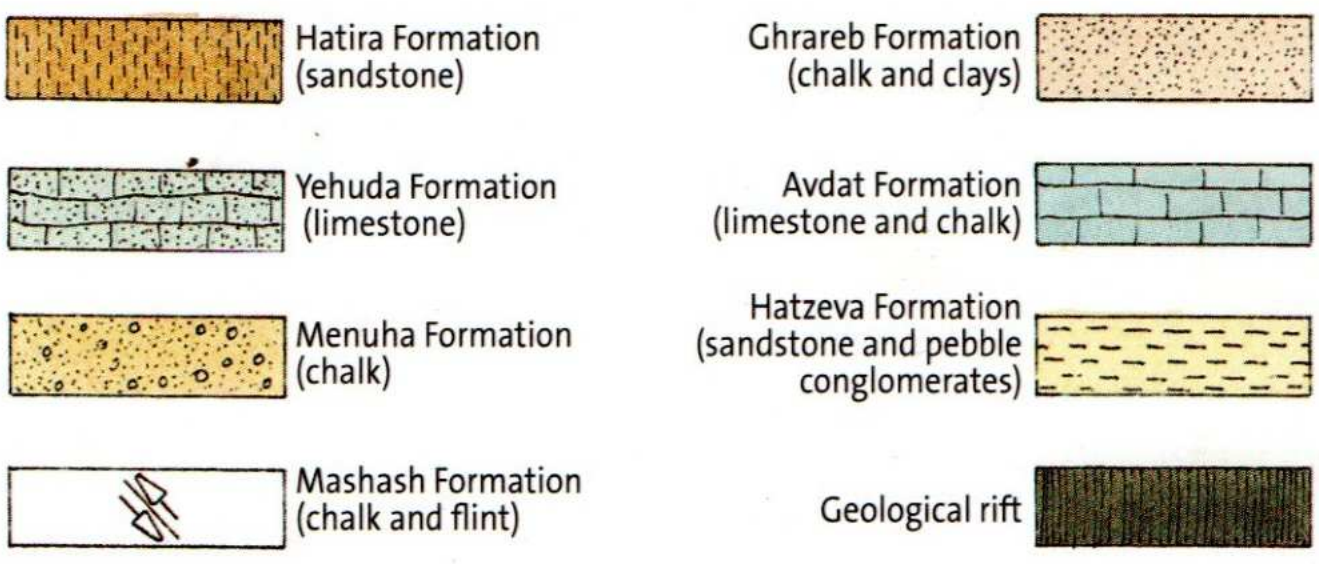


Dear Visitors

A wealth of nature and scenery awaits you every step of the way in and around Makhtesh Ramon. To better acquaint you with this unique region, the Israel Nature and Parks Authority, together with Keren Kayemeth Leisrael and the Mitspe Ramon Local Council have established the Ramon Park complex, in the heart of which is the Makhtesh Ramon Visitor Center. The visitor center is your gateway to Makhtesh Ramon, as well as the national commemoration site for the first Israeli astronaut, Col. Ilan Ramon.

We wish you a pleasant and interesting visit to Makhtesh Ramon.

Trails and Selected Sites

Before setting out on any hike, make sure you have all the information available about it.

Makhtesh Ramon Colors National Park

A road suitable for all vehicles crosses the center of the national park. The area was once a mineral quarry, which has been rehabilitated and turned into a fascinating geological park, revealing secrets from the geological past of the makhtesh. Parking areas have been prepared along the main road and paths lead visitors on short walks to view the colorful rocks. Along the paths are explanatory and illustrative signs that turn the visit into a real experience. Along the road, you'll pass the following points of interest:

The Open Mine: A large quarry wall that reveals dark purple rocks of the Mashkhor Formation. Dating back some 200 million years, these are the oldest rocks in the makhtesh, known in industry as "flint-like clay." They are rich in iron and aluminum oxides, and were used in the manufacture of fireproof materials. Although this rock has no connection to flint, it got its name from its tendency to break along smooth surfaces that recall flint fragments.

The Purple Canyon: A sinkhole with purple rocks remaining on its walls – remnants of a deposit of aluminum oxides, which once filled the pit.

Hideaways: Openings of small caves covered by built stone walls. Known in Hebrew as *matmorot* and in Arabic as *matamir*, they were once used by the Bedouin to store equipment that might weigh them down on their desert migrations.

The industrial kiln: A giant pipe resembling a canon marks the place of the factory that once produced fireproof materials. The huge pipe is the kiln left over from the factory. Upgrading materials were added to pebbles, followed by water, which turned them into paste. They were then roasted in the kiln. The pipe, which was set at a slight incline, pivoted on an axis, heated by burners that reached a temperature of up to 1,600 degrees Celsius. After roasting, the material became fireproof, and was used to manufacture bricks for ovens and kilns.

The quarry lake: A pool usually forms here in the winter because the quarry reaches the aquifer. The water is bitter, indicating the presence of dissolved salt and plaster.

The First International Dark Sky Reserve in the Middle East

Makhtesh Ramon is famous for its star-studded skies and undisturbed nighttime natural surroundings.In 2017, this area, was declarean International Dark Sky Reserve by the International Dark Sky Association. Makhtesh Ramon thus became at the time one of 54 such reserves in only 15 countries. Most of these reserves are in the United States and Europe, and there are no others in the Middle East.

This distinction is earned by sites throughout the world where the nighttime, star-filled sky is preserved in its natural condition in all its glory.

The Israel Nature and Parks Authority gives the public the opportunity to enjoy a unique nighttime experience at its campgrounds, designed to minimize light pollution, and offers after-dark astronomy and nature activities.

This recognition contributes to transforming all of Israel's reserves into places where these important values are protected for the sake of nature and future generations.

Campgrounds in and around Makhtesh Ramon

1. Be'erot Campground (water, toilets, showers and other facilities (reservation and payment).
2. Lotz Cisterns Campground. On road 171, northwest of Makhtesh Ramon (water and toilets).
3. Geves Pnimi Campground, near road 40 in Makhtesh Ramon (open space).
4. Mount Ardon Campground, in the northeastern part of Makhtesh Ramon (open space).
5. Wadi Gvanim Campground, where the wadi crosses the oil pipeline (open space). Access by 4 x 4 vehicles only. Arrive before dark.
6. Nekarot Campground, near road 40, at the southern exit of Makhtesh Ramon.
7. Pitam Gap Campground (open space).

Be'erot Campground

This overnight campground is located in the heart of the beautiful trails of Makhtesh Ramon. It features toilets, showers, shade structures, tables, benches, shaded areas, a cooking area and sinks.

There is a fee to use the campground. Groups must reserve ahead. Campers may sleep under the stars, put up their own tents or sleep in the Bedouin tent at the site. Access is from road 40, about 10 km south of Mitspe Ramon, following the signage.

Make your reservation on the Israel Nature and Parks Authority website, under "campgrounds," then "Be'erot Campground."

Text: Yaacov Shkolnik; **Translation:** Miriam Feinberg Vamosh; **Design, illustrations, and map:** Shalom Kveller; **Map production:** Yuval Artman; **Photographs:** Doron Horowitz, Shai Ginott, Eyal Yizrael, Tal Glick, Albatross Aerial Photography; INPA archive **Production:** Adi Grinbaum © Israel Nature and Parks Authority

Visitor Center Hours

Sundays–Thursdays and Saturdays 8:00–16:00, Fridays 8:00–15:00. For opening and closing hours on holiday eves and holidays please check the visitor center website. In winter, the site closes one hour earlier. Entrance fee required. Please reserve your visit on the Israel Nature and Parks Authority website and arrive 10 minutes beforehand to complete payment. There is a paid parking lot adjacent to the visitor center.

Tel: 08-6588691 email: mm.ramon@npa.org.il

The Geological Trail and the Archaeological Park

The geological trail next to the visitor center features exhibits including rock prisms, fossils and rocks of the unique formation known as "Arod conglomerate." The trail continues to an archaeological park, where a few stations faithfully reconstruct structures from ancient periods in the Negev: a rock shelter used by prehistoric humans; a tumulus – a burial structure from the third millennium BCE; a dwelling from the Early Bronze Age and the Middle Bronze Age I; a four-room house from the Iron Age (the Israelite period); and rock drawings representing various periods. Entry is free.

Ramon Visitor Center

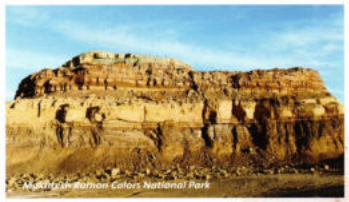
Part of the center is devoted to commemoration of Col. Ilan Ramon, the first Israeli astronaut, who was killed in the crash of the Columbia space shuttle in 2003, and part is devoted to explaining the creation of the makhtesh and its wildlife.

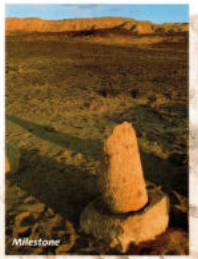
There are four exhibition halls leading one into the other in an experiential way. The first hall presents milestones in the life of Ilan Ramon; the second hall screens a film about Ilan Ramon and his space flight; the third hall is devoted to explanations of the geological phenomena in Makhtesh Ramon, as well as a 3D demonstration of the formation of the makhtesh; and in the fourth hall is a nature film about animals in the area of Makhtesh Ramon. At the entrance to the visitor center is a service and information center where you can obtain information about trails in and around Makhtesh Ramon

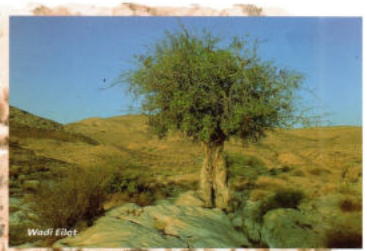
Stone, Wind, Water

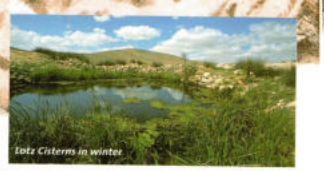
Length of visit: about half an hour

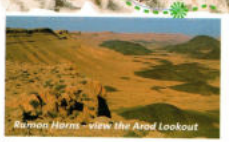
In the heart of an abandoned and rehabilitated quarry, the hills of sand in a variety of colors have been made into a tourist site. The sand was carried by the wind from various mining areas that were rehabilitated in Makhtesh Ramon, and the large variety of colors attests to the wealth of minerals in the makhtesh. Bring small, transparent bottles with you to fill with the multicolored sand. A short trail connects the colorful dunes with the "Carpentry." If there is water at the site, bathing is prohibited.











Hemet Cistern

Hamat Cistern, dating from the Israelite period, is located along the road from Mitspe Ramon to Mount Harif. It is an open-air cistern, the largest of its kind in the Negev. Its walls are covered with dressed stone and an impressive channel leads to it. The cistern is filled with water almost year-round. Bathing is prohibited.

The "Carpentry"

Length of visit: About half an hour. This special sandstone hill at the bottom of Makhtesh Ramon is situated about 800 m west of the road through the makhtesh. The access road is suitable for all vehicles and is well signposted. After the sandstones here were "baked" in the great heat, they cooled into fascinating, prism-like shapes. The Israel Nature and Parks Authority has prepared a special path that visitors can walk without harming the rocks, and has installed informational signs. A short walking trail has been created connecting the "Carpentry" and the Stone, Wind and Water site.

Lotz Cisterns

Length of visit: About three hours, plus one hour's drive to the beginning of the trail

This is a large concentration of ancient cisterns from the Early Israelite period along the road from Mitspe Ramon to Mount Harif. A walking trail is marked (in red) among the cisterns. In winter, the cisterns fill with water – a very impressive sight – and in spring, a carpet of colorful wildflowers blooms. Especially prominent are the sun-rose (Helianthemum vesicarium) which paints the hills pink, and the two-flowered tulip (Tulipa biflora), endemic to the area. The Israel Nature and Parks Authority has created a rest area with toilets and drinking-water taps, but bathing is prohibited.

Saharonim Spring – Khan Saharonim

Length of visit: one hour. **Length of trail:** about half a kilometer. Access: Drive to the Be'erot Campground, following the signs on the makhtesh road. From there, head north for about half a kilometer on a road with black trail markings. Turn east (right) onto an unpaved road marked with red trail markings and continue for about 3 km to Saharonim Spring Campground. Saharonim Fort is located on a hill alongside the campground. We recommend climbing the hill to view the fort, which was a station on the Nabatean Incense Route. From there, descend on foot to the trail to Saharonim Spring, a few minutes' walk. In winter, Saharonim Spring creates a flowing stream that can be hundreds of meters long or more, but sometimes in the summer it dries up completely. Lush aquatic plants thrive around the spring, and the tracks of animals that have come to the spring are almost always visible. Herds of onagers released into Makhtesh Ramon are particularly fond of Saharonim Spring and have made it their home. And not infrequently, a herd of ibex can be seen going down to the spring.
Bathing is not allowed.

Mount Gamal – the Promenade – and the Desert Sculpture Park

Full length of visit: About 2.5 hours (not including the visitor center)
Length of trail: About 3.5 km
Access: Mount Gamal is located on the western outskirts of Mitspe Ramon
Note: Leave a vehicle at the end point, at the Sculpture Park (or at the visitor center if that's your end point).
Gamal means camel in Hebrew, and the mountain got its name because it resembles a sitting camel. A steep but brief climb leads to the top of the hill. Convenient lookout plazas have been built at the top and bottom of the hill on immense sandstone rocks that touch the edge of the makhtesh. Small wooden bridges link the cliff and the plazas, which afford incredible views of western Makhtesh Ramon. Because Mount Gamal stood out in the landscape, it was once a meeting place for Bedouins and for researchers in the area. The afternoon hours are a perfect time for a walk along the promenade that leads to the visitor center, revealing unspoiled views all along the way. Near the visitor center a pedestrian bridge spans the road to Eilat. The trail crosses the bridge, and from there it continues along the edge of the makhtesh. After passing Breisheet Hotel, you'll see environmental sculptures that have been installed on the edge of the cliff. These sculptures were made by artists from all over the world, who created them at an international sculpture conference in Mitspe Ramon in the 1960s, 1980s and 1990s. Other sculptures take advantage of the wind that blows here, and add the experience of sound to that of form; this is the Sculpture Park, installed in the 2000s. Here, where the sculptures and the sounds add an artistic dimension to the amazing view, is where the trail ends.

BUY AN ISRAEL NATURE AND PARKS AUTHORITY SUBSCRIPTION FOR UNLIMITED FREE ENTRY TO 55 NATIONAL PARKS AND NATURE RESERVES.

Nearby Sites:

Ramon Visitor Center

Be'erot Campground
about 25 minutes' drive

You are here

Avdat National Park
about 20 minutes' drive

Makhtesh Ramon Colors National Park
about 20 minutes' drive

www.parks.org.il | *3639 |

Ramon Visior Center, Tel. 08-6588691

Makhtesh Ramon Visitor Center
Israel Nature and Parks Authority

The center has four exhibition halls with automated guiding, various presentations, films and models.
The tour is automatically timed and lasts about one hour.

The center presents two topics:
Nature and landscape of the region, and the national commemoration for the astronaut Ilan Ramon

Hall 1 - Launch Pavilion
The hall highlights milestones of Ilan Ramon's life.
An automatically operated film is screened after 5 minutes from the start of the tour.

Hall 2 – Ilan Ramon Hall
A film about Ilan Ramon is shown in this hall.

Hall 3 – Geological Exhibition
The exhibition displays panels with scientific information about the geology of the makhtesh.
A **3D** presentation about the creation of the makhtesh begins automatically.

Hall 4 – Film about the wildlife in Makhtesh Ramon.

Enjoy Your Visit!